Previous Doc Next Doc Go to Doc#
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L8: Entry 2 of 25 File: USPT Oct 14, 2003

DOCUMENT-IDENTIFIER: US 6632430 B2
TITLE: Modulators of methylation for control of bacterial virulence

Brief Summary Text (4):
The importance of transmethylation reactions in metabolism in general has gained considerable recognition. PCT application WO96/20010 and U.S. Pat. No. 5,872,104, incorporated herein by reference, describe the use of methylation inhibitors to reduce the resistance of microorganisms to antibiotics. Heithoff, D. M., et al,. Science (1999) 284:967-970 report the results of a study showing that Salmonella typhimurium which lacks DNA adenine methylase (Dam) were essentially avirulent and therefore could be used as live vaccines against murine typhoid fever. The authors concluded that Dam regulated the expression of at least 20 genes known to be induced during infection and noted that inhibitors of Dam were likely to be antimicrobials. It was earlier shown by Braaten, B. A., et al,. Cell (1994) 76:577-588 that the methylation patterns associated with pyelonephritis-associated pili (Pap) DNA controlled gene expression in E. coli. Thus, it is clear that in bacteria, methylation status is significant in controlling metabolism, and thus infectivity in general. The importance of S-adenosyl-L-methionine (SAM) dependent transmethylation in viral infection has also been studied by Liu, S., et al., Antiviral Research (1992) 19:247-265.

Previous Doc Next Doc Go to Doc#

Enzyme No.: EC 2.1.1. (Methyltransferases); EC 2.1.1.63 (O(6)-Methylguanine-DNA Methyltransferase); EC 2.5.1.18 (Glutathione Transferase)
Record Date Created: 19970407
Record Date Completed: 19970407

8/9/11
DIALOG(R)File 155:MEDLINE(R)

13382816 PMID: 9055987
Induction of ermSV by 16-membered-ring macrolide antibiotics.
Kamimiya S; Weisblum B
Pharmacology Department, University of Wisconsin Medical School, Madison 53706, USA.
Antimicrobial agents and chemotherapy (UNITED STATES) Mar 1997, 41 (3) p530-4, ISSN 0066-4804 Journal Code: 0315061
Contract/Grant No.: AI-18283; AI; NIAID
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS
The erm family of 23S rRNA **adenine** -N6- **methyltransferases** confers resistance to all macrolide-lincosamide-streptograminB (MLS) antibiotics, but not all MLS antibiotics induce synthesis of Erm methyltransferase with equal efficiency in a given organism. The induction efficiency of a test panel of MLS antibiotics was studied by using two translational **attenuator** -lac reporter gene fusion constructs, one based on ermSV from Streptomyces viridochromogenes NRRL 2860 and the other based on ermC from Staphylococcus aureus RN2442. Four types of responses which were correlated with the macrolide ring size were seen, as follows: group 1, both ermSV and ermC were induced by the 14-membered-ring macrolides erythromycin, lankamycin, and matromycin, as well as by the lincosamide celesticetin; group 2, neither ermSV nor ermC was induced by the 12-membered-ring macrolide methymycin or by the lincosamide lincomycin or the streptogramin type B antibiotic ostreogrycin B; group 3, ermSV was selectively induced over ermC by the 16-membered-ring macrolides carbomycin, chalcomycin, cirramycin, kitasamycin, maridomycin, and tylosin; and group 4, ermC was selectively induced over ermSV by the 14-membered-ring macrolide megalomicin. These data suggest that the leader peptide determines the specificity of induction by different classes of MLS antibiotics and that for a given **attenuator** , a major factor which determines whether a given macrolide induces resistance is its size.
Tags: Support, U.S. Gov't, P.H.S.
Descriptors: *Anti-Bacterial Agents--pharmacology--PD; *Genes, Bacterial --genetics--GE; *Methyltransferases--genetics--GE; *Streptomyces--genetics --GE; Anti-Bacterial Agents--chemistry--CH; Genes, Bacterial--physiology --PH; Genes, Reporter--genetics--GE; Genes, Reporter--physiology--PH; Lac Operon--genetics--GE; Macrolides; Microbial Sensitivity Tests; **Plasmids** --genetics--GE; Streptomyces--drug effects--DE; Streptomyces--enzymology --EN
CAS Registry No.: 0 (Anti-Bacterial Agents); 0 (Macrolides); 0 (Plasmids)
Enzyme No.: EC 2.1.1. (Methyltransferases); EC 2.1.1.66 (rRNA (**adenosine** -O-2'-) **methyltransferase**)
Record Date Created: 19970602
Record Date Completed: 19970602

8/9/12
DIALOG(R)File 155:MEDLINE(R)

13252537 PMID: 8918477
Chromosomal replication incompatibility in Dam methyltransferase

deficient Escherichia coli cells.

Lobner-Olesen A; von Freiesleben U
University of Colorado at Boulder, Dept of Molecular Cellular and Developmental Biology 80309, USA.

EMBO journal (ENGLAND) Nov 1 1996, 15 (21) p5999-6008, ISSN 0261-4189 Journal Code: 8208664
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

Dam methyltransferase deficient Escherichia coli cells containing minichromosomes were constructed. Free **plasmid** DNA could not be detected in these cells and the minichromosomes were found to be integrated in multiple copies in the origin of replication (oriC) region of the host chromosome. The absence of the initiation cascade in Dam- cells is proposed to account for this observation of apparent incompatibility between **plasmid** and chromosomal copies of oriC. Studies using oriC-pBR322 chimeric **plasmids** and their deletion derivatives indicated that the incompatibility determinant is an intact and functional oriC sequence. The seqA2 **mutation** was found to overcome the incompatability phenotype by increasing the cellular oriC copy number 3-fold thereby allowing minichromosomes to coexist with the chromosome. The replication pattern of a wild-type strain with multiple integrated minichromosomes in the oriC region of the chromosome, led to the conclusion that initiation of DNA replication commences at a fixed cell mass, irrespective of the number of origins contained on the chromosome.

Descriptors: Chromosomes, Bacterial--metabolism--ME; *DNA Replication; *Escherichia coli--genetics--GE; *Escherichia coli--metabolism--ME; *Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific)--metabolism--ME ; Chromosomes, Bacterial--genetics--GE; DNA Methylation; DNA, Bacterial --biosynthesis--BI; DNA, Bacterial--genetics--GE; Genes, Bacterial; **Mutation** ; **Plasmids** --genetics--GE; **Plasmids** --metabolism--ME; Replication Origin; Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific)--genetics--GE; **Transformation** , Genetic
CAS Registry No.: 0 (DNA, Bacterial); 0 (Plasmids)
Enzyme No.: EC 2.1.1.- (Dam methyltransferase); EC 2.1.1.72 (Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific))
Record Date Created: 19970108
Record Date Completed: 19970108

product of a previously undescribed gene, which we named mrr (methylated adenine recognition and restriction). We suggest that mrr encodes an endonuclease that cleaves DNA containing N6-methyladenine and that DNA double-strand breaks induce the SOS response. Cytosine methylases **foreign** to E. coli (MspI [meCCGG], HaeIII [GGmeCC], BamHI [GGATmeCC], HhaI [GmeCGC], BsuRI [GGmeCC], and M.Spr) also induced SOS, whereas one indigenous to E. coli (EcoRII [CmeCA/TGG]) did not. SOS induction by cytosine methylation required the rglB locus, which encodes an endonuclease that cleaves DNA containing 5-hydroxymethyl- or 5-methylcytosine (E. A. Raleigh and G. Wilson, Proc. Natl. Acad. Sci. USA 83:9070-9074, 1986).

Tags: Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.

Descriptors: DNA Damage; *DNA Repair; *Escherichia coli--genetics--GE; *Methyltransferases--metabolism--ME; *SOS Response (Genetics); *Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific); 5-Methylcytosine; Adenine--analogs and derivatives--AA; Adenine --physiology--PH; Bacteriophage lambda--genetics--GE; Cloning, Molecular; Cytosine--analogs and derivatives--AA; Cytosine--physiology--PH; DNA (Cytosine-5-)-Methyltransferase--metabolism--ME; DNA Transposable Elements; Lysogeny; Methyltransferases--genetics--GE; **Mutation** ; Promoter Regions (Genetics)

CAS Registry No.: 0 (DNA Transposable Elements); 443-72-1 (6-methyladenine); 554-01-8 (5-Methylcytosine); 71-30-7 (Cytosine); 73-24-5 (Adenine)

Enzyme No.: EC 2.1.1. (Methyltransferases); EC 2.1.1.- (DNA modification methylase HinfI); EC 2.1.1.37 (DNA (Cytosine-5-)-Methyltransf erase); EC 2.1.1.72 (Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific))

Record Date Created: 19870807

Record Date Completed: 19870807

8/9/83

DIALOG(R)File 155:MEDLINE(R)

07288542 PMID: 3536887

Biological role of DNA methylation: sequence-specific single-strand breaks associated with hypomethylation of GATC sites in Escherichia coli DNA.

Szyf M; Meisels E; Razin A

Journal of bacteriology (UNITED STATES) Dec 1986, 168 (3) p1487-90, ISSN 0021-9193 Journal Code: 2985120R

Contract/Grant No.: GM 20483; GM; NIGMS

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

The effect of methylation of GATC sites in Escherichia coli DNA on the formation of single-strand breaks was studied with dam+, dam **mutant** , and Dam-overproducer strains. Single-strand breaks have been observed in dam **mutant** cells predominantly at TpT and, to a lesser extent, at CpC. In dam **mutant** cells harboring pTP166 (a **plasmid** containing the dam gene), no such nicks were observed.

Tags: Support, U.S. Gov't, P.H.S.

Descriptors: *DNA Damage; *DNA, Bacterial--metabolism--ME; *DNA, Single-Stranded--metabolism--ME; *Escherichia coli--metabolism--ME; *Methyltransferases--physiology--PH; Base Sequence; Methylation; **Plasmids** ; Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific)

CAS Registry No.: 0 (DNA, Bacterial); 0 (DNA, Single-Stranded); 0 (Plasmids)

Enzyme No.: EC 2.1.1. (Methyltransferases); EC 2.1.1.72 (Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific))

Record Date Created: 19870114

Record Date Completed: 19870114

Search

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Bacteria

ATCC Number:	**55518** Order this Item	**Price:**	**$190.00**
Organism:	*Mannheimia haemolytica* (Newsom and Cross) Angen et al. deposited as ***Pasteurella haemolytica*** Newsom and Cross		
Designations:	NADC-D60aroA-	**Isolation:**	lung from cow with pneumonic pasteurellosis [38863]
Depositors:	National Animal Disease Center, ARS, USDA		
Biosafety Level:	2	**Shipped:**	freeze-dried
Growth Conditions:	ATCC medium: 260 Trypticase soy agar with defibrinated sheep blood Growth Conditions: aerobic Temperature: 37.0 C		

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Related Products

Applications:	used to produce live, attenuated veterinary vaccines against **Pasteurella** haemolytica [38863]
References:	38863: Construction of **Pasteurella** haemolytica vaccines. US Patent 5,733,780 dated Mar 31 1998 61435: Briggs RE, Tatum FM . Construction of **Pasteurella** haemolytica vaccines. US Patent 5,733,780 dated Mar 31 1998

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DATE: Tuesday, November 02, 2004

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		DB=USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=AND	
☐	L1	(heterologous or heter-ologous or foreign or nonnative or non-native).clm.	10571
☐	L2	(heterologous or heter-ologous or foreign or nonnative or non-native or exogenous).clm.	11879
☐	L3	L2 and dam and adenine	41
☐	L4	L2 and adenine	956
☐	L5	L4 and (methylase or methyltransferase or methyl-transferase or dam or (dna near adenine))	133

END OF SEARCH HISTORY

0197305 DBR Accession No.: 96-07446 PATENT

Attenuated virus containing additional methylation sites in its genome - HIV virus-1, SIV virus or HTLV-I virus attenuation by deletion mutation for use as recombinant vaccine; DNA probe and DNA primer

AUTHOR: Nyce J W
CORPORATE SOURCE: Greenville, NC, USA.
PATENT ASSIGNEE: Univ.East-Carolina 1996

PATENT NUMBER: WO 9611280 PATENT DATE: 960418 WPI ACCESSION NO.: 96-209861 (9621)
PRIORITY APPLIC. NO.: US 319974 APPLIC. DATE: 941007
NATIONAL APPLIC. NO.: WO 95US13219 APPLIC. DATE: 951005
LANGUAGE: English

...ABSTRACT: an attenuating deletion mutation. Also new are: DNA (I) encoding the attenuated virus; an expression **vector** (baculo virus) containing (I); a **host** cell containing (I) and expressing attenuated virus, where the **host** cell does not **methylate** the **DNA** sufficiently to inactivate expression of the encoded virus genome due to treatment of the cell...

... inhibitor (5-azadeoxycytidine or 5-azacytidine); a pharmaceutical formulation of the attenuated virus; a recombinant **vaccine** and vaccination method; a method for making the attenuated virus by transforming a mammal or insect cell with a **vector** ; and a DNA probe or DNA primer for detecting attenuated virus. (41pp)

DESCRIPTORS: HIV virus-1, SIV virus, HTLV-I virus attenuation, deletion mutant, multiple **methylation** site, **DNA** probe, **DNA** primer, baculo virus **vector** expression in mammal, insect cell culture, pot. recombinant **vaccine** mutation retro virus leuko virus lenti virus T-lymphocyte leukemia virus foamy virus AIDS animal...

First Hit Fwd Refs

L5: Entry 39 of 133 File: USPT Jun 18, 2002

US-PAT-NO: 6406885
DOCUMENT-IDENTIFIER: US 6406885 B1
**** See image for Certificate of Correction ****

TITLE: Plants and plant cells expressing histidine tagged intimin

DATE-ISSUED: June 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stewart, Jr.; C. Neal	Greensboro	NC		
McKee; Marian L.	Great Falls	VA		
O'Brien; Alison D.	Bethesda	MD		
Wachtel; Marian R.	Gaithersburg	MD		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Henry M. Jackson Foundation for the Advancement of Military Medicine	Rockville	MD			02

APPL-NO: 09/ 696188 [PALM]
DATE FILED: October 26, 2000

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION

This is a division of application Ser. No. 08/840,466, filed Apr. 18, 1997 now U.S. Pat. No. 6,261,561, which is a continuation of provisional application Ser. No. 60/015,657, filed Apr. 19, 1996 and provisional application Ser. No. 60/015,938, filed Apr. 22, 1996, all of which are specifically incorporated herein by reference.

This application is related to provisional applications entitled HISTIDINE-TAGGED INTIMIN AND METHODS OF USING INTIMIN TO STIMULATE AN IMMUNE RESPONSE AND AS AN ANTIGEN CARRIER WITH TARGETING CAPABILITY, of inventors Marian McKee, Alison O'Brien,. and Marian Wachtel Provisional Application No. 60/015,937; filed on Apr. 19, 1996, and Provisional Application No. 60/015,938, filed on Apr. 22, 1996; said applications are incorporated herein by reference.

INT-CL: [07] C12 P 21/06

US-CL-ISSUED: 435/69.1; 435/69.3, 435/410, 435/420, 536/23.1, 536/23.2, 536/23.7
US-CL-CURRENT: 435/69.1; 435/410, 435/420, 435/69.3, 536/23.1, 536/23.2, 536/23.7

FIELD-OF-SEARCH: 435/252.2, 435/252.8, 435/320.1, 435/69.3, 435/69.1, 435/91.41, 435/410, 435/420, 536/23.7, 536/23.1, 536/23.2, 800/298, 800/300, 800/301, 800/302, 800/317.2, 800/322

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL | Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4736017	April 1988	O'Hanley et al.	
☐	4740585	April 1988	Schmidt et al.	
☐	5049500	September 1991	Arnizen et al.	
☐	5378824	January 1995	Bedbrook et al.	
☐	5380831	January 1995	Adang et al.	
☐	5484719	January 1996	Lam et al.	
☐	5532142	July 1996	Johnston et al.	
☐	5747293	May 1998	Dougan et al.	
☐	5759551	June 1998	Ladd et al.	
☐	5798260	August 1998	Tarr et al.	

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
2078716	March 1994	CA	
0 222 835	May 1987	EP	
0282042	September 1988	EP	
90/02484	March 1990	WO	
92/02820	February 1992	WO	
95/15678	June 1994	WO	
94/20135	September 1994	WO	
94/25060	November 1994	WO	
96/00233	January 1996	WO	
96/12801	May 1996	WO	

OTHER PUBLICATIONS

Beebakhee et al., "Cloning and Nucleotide Sequence of the eae Gene Homologue from Enterohemorrhagic Esherichia coli Serotype 0157:H7," FEMS Microbio. Ltrs., 91:63-68 (1992).
Dalsgaard et al., "Plant-Derived Vaccine Protects Target Animals Against a Viral Disease," Nature Biotechnology, 15:248-252 (1997).
Abstract: C. Neal Stewart, Jr.; Marian R. Wachtel; Stephen A. Mabon; William B. Warrick; and Alison D. O'Brien, "Expression of Enterohemorrhagic Escherichia coli Intimin in Transgenic Plants: An Edible Anti-EHEC 0157:H7 Vaccine Candidate," VTEC Meeting, Baltimore, Maryland, Jun. 22-26, 1997.
Abstract: Marian R. Wachtel; Lisa J. Gansheroff; and Alison D. O'Brien, "Structure-Function Analysis, Purification, and Immunoreactivity of Enterohemorrhagic Escherichia coli Intimin," VTEC Meeting, Baltimore, Maryland, Jun. 22-26, 1997.

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Word or phrase: Excipient Search

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Definitions from The Online Plain Text English Dictionary:

Excipient
- (*n.*) An exceptor.
- (*n.*) An inert or slightly active substance used in preparing remedies as a vehicle or medium of administration for the medicinal agents.
- (*v. t.*) Taking an exception.

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excipient

<chemistry, pharmacology> Any more or less inert substance added to a prescription in order to confer a suitable consistency or form to the drug, a vehicle.

Origin: L. Excipiens, capere = to take

(18 Nov 1997)

Previous: exchange, exchange transfusion, exchange transfusion, whole blood, exchequer
Next: excipulum, excise, excision, excisional biopsy, excisionase

Dictionary

excipient

excipient

ex·cip·i·ent [ik sípee nt]
(plural **ex·cip·i·ents**)

noun

something combined with a drug: an inert substance, for example, starch or gum arabic, that is combined with a drug to make it easier to administer

[Early 18th century. From Latin *excipient-* , the present participle stem of *excipere* "to receive, take out" (see except).]

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Dictionary

12684915 PMID: 7607497

Expression of the SalI restriction-modification system of Streptomyces albus G in Escherichia coli.

Alvarez M A; Gomez A; Gomez P; Rodicio M R
Departamento de Biologia Funcional, Universidad de Oviedo, Spain.

Gene (NETHERLANDS) May 19 1995, 157 (1-2) p231-2, ISSN 0378-1119
Journal Code: 7706761
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

The salIR and salIM genes of Streptomyces albus G encode the restriction endonuclease (ENase) and DNA methyltransferase (MTase) of the SalI restriction-modification (R-M) system. In S. albus G, the genes constitute an operon that is mainly transcribed from a promoter located upstream from salIR, the first gene of the operon. In addition, a second promoter, at the 3' end of salIR, allows independent transcription of the MTase gene. Expression of salIR and salIM in Escherichia coli was investigated. The ENase gene was not expressed in the **heterologous** host, probably due to inactivity of the main promoter of the salI operon. In contrast to salIR, salIM was functional in E. coli. Preliminary S1 nuclease mapping experiments suggest that the **alternative** promoter of the MTase gene can initiate transcription in the **heterologous** , as well as in the homologous host.

Tags: Support, Non-U.S. Gov't
Descriptors: Deoxyribonucleases, Type II Site-Specific--biosynthesis--BI; *Recombinant Proteins--biosynthesis--BI; *Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific)--biosynthesis--BI; *Streptomyces--enzymology--EN ; Cloning, Molecular--methods--MT; Deoxyribonucleases, Type II Site-Specific--genetics--GE; Escherichia coli--metabolism--ME; Gene Expression; Genes, Bacterial; Operon; Promoter Regions (Genetics); Site-Specific DNA- **Methyltransferase** (**Adenine** -Specific)--genetics--GE; Streptomyces--genetics--GE
CAS Registry No.: 0 (Recombinant Proteins)

WEST Search History

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DATE: Tuesday, November 02, 2004

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☐	L2	L1 same (buffer or sucrose or gelatin or excipient or dam or dna)	27
☐	L3	shuttle same vector same vaccin$	105
☐	L4	shuttle same vector same vaccine	48
☐	L5	L4 and dam$1	1
☐	L6	L4 and l1	0
☐	L7	L4 and (jm110 or jm-110 or cd167 or cd-167)	0
☐	L8	(gm2163 or jm110 or jm-100 or cd167 or cd-167 or dam- or dam) near25 vaccine	25
☐	L9	dna near adenine near methyl$	48
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☐	L11	L10 and dam	0
☐	L12	L10 and adenine	0
☐	L13	L12 and methylase	0
☐	L14	L10 and methylase	0
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☐	L15	dam$ same salmonella same vaccin$	40
	DB=EPAB; PLUR=YES; OP=AND		
☐	L16	WO-200045840-A1.did.	0
	DB=USPT,PGPB,JPAB,EPAB; PLUR=YES; OP=AND		
☐	L17	(WO-200045840-A1)![did]	0

END OF SEARCH HISTORY

L15: Entry 36 of 40 File: DWPI Jul 4, 2002

DERWENT-ACC-NO: 2002-635659
DERWENT-WEEK: 200424

TITLE: Attenuated strain of bacteria useful for eliciting immune response in an individual, has altered DNA adenine methylase activity

INVENTOR: HEITHOFF, D M; LOW, D A ; MAHAN, M J ; SINSHEIMER, R L

PATENT-ASSIGNEE: HEITHOFF D M (HEITI), LOW D A (LOWDI), MAHAN M J (MAHAI), SINSHEIMER R L (SINSI)

PRIORITY-DATA: 2001US-0927896 (August 9, 2001), 1999US-183043P (February 2, 1999), 1999US-198250P (May 5, 1999), 2000US-0495614 (February 1, 2000), 2000US-0612116 (July 7, 2000)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	US 20020086032 A1	July 4, 2002		044	A61K039/02

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US20020086032A1	February 2, 1999	1999US-183043P	Provisional
US20020086032A1	May 5, 1999	1999US-198250P	Provisional
US20020086032A1	February 1, 2000	2000US-0495614	CIP of
US20020086032A1	July 7, 2000	2000US-0612116	CIP of
US20020086032A1	August 9, 2001	2001US-0927896	

INT-CL (IPC): A61 K 39/02; C12 N 1/21

RELATED-ACC-NO: 2000-532863;2002-557291 ;2002-598710 ;2002-635674 ;2002-690113

ABSTRACTED-PUB-NO: US20020086032A
BASIC-ABSTRACT:

NOVELTY - An attenuated strain (I) of bacteria, comprising altered DNA adenine methylase (Dam) activity, such that the bacteria are attenuated, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) administering (M1) to a subject capable of generating an immune response, a composition comprising a pharmaceutically acceptable excipient and an immunogenic

dose of attenuated bacteria comprising altered Dam activity relative to a Wild-type bacteria, and allowing the composition to remain in the subject for a time and under under conditions to allow the subject to generate an immune response to the attenuated bacteria and produce antibodies specific to the attenuated bacteria; and

(2) an immunogenic composition (II), comprising a pharmaceutically acceptable excipient, and live bacteria comprising altered Dam activity, where the altered activity reduces virulence relative to the bacteria with wild-type Dam activity.

ACTIVITY - None given.

MECHANISM OF ACTION - Vaccine. Strains which demonstrated attenuation as a result of of intraperitoneal or oral challenge of BALB/c mice were further tested for protective immunity against subsequent challenge by the wild-type strain at 105 I.P. or 109 orally. BALB/c mice were perorally immunized through gastrointubation with a dose of 10+9 Dam- S.typhimurium. Five weeks later, the immunized mice were challenged perorally with 10+9 wild-type S.typhimurium. After five weeks, surviving mice were challenged with the wild-type 14028 strain. Survival for four weeks post challenge was deemed full protection. The data demonstrated the potential use of (I) in developing vaccine strains. Since Dam- mutants were highly attenuated, it was was determined whether Dam- Salmonella could serve as a live attenuated vaccine. The The result showed that all (17/17) mice immunized with a S.typhimurium Dam- insertion strain survived a wild-type challenge of 10+4 above the LD50, whereas all nonimmunized mice (12/12) died following challenge.

USE - M1 is useful for eliciting an immune response and producing antibodies specific to (I). (I) or (II) is useful for eliciting an immune response in an individual, by administering (I) or (II) to an individual, and allowing (I) or (II) to remain in the individual for a time and under conditions to allow the individual to generate an immune response (claimed). (I) is useful for producing antibodies, producing higher concentration of B-cell, and for vaccinating a host against a pathogenic microorganism or a spectrum of pathogenic microorganisms.

ABSTRACTED-PUB-NO: US20020086032A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/9

DERWENT-CLASS: B04 C06 D16
CPI-CODES: B04-F10; B04-G01; B04-L0400E; B11-C07A; B11-C08E1; B12-K04E; B14-S11; C04-F10; C04-G01; C04-L0400E; C11-C07A; C11-C08E1; C12-K04E; C14-S11; D05-A02; D05-H04; D05-H07;

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L1: Entry 2 of 46 File: USPT Jun 1, 2004

DOCUMENT-IDENTIFIER: US 6743609 B1
TITLE: Linoleate isomerase

Detailed Description Text (147):
The PCR product of 1.9 kb was cloned as blunt ends at the SrfI site into pPCR-Script Amp SK and transformed into cells of E. coli strain NovaBlue. Since dam methylation in this host prevents BclI digestion, the recombinant plasmid was transformed into cells of E. coli strain GM2163, which is a dam minus strain. Recombinant plasmid DNA was digested with the restriction enzymes NdeI and BclI and ligated to the vector PBHAI which had been digested with NdeI and BamHI. Recombinant plasmid DNA was digested with SacI to remove the E. coli portion of the vector, recircularized, and transformed into B. subtilis 23856.

L1: Entry 4 of 46 File: USPT Mar 16, 2004

DOCUMENT-IDENTIFIER: US 6706860 B2
TITLE: Toxins

Detailed Description Text (26):
For truncation of the isp2 gene, a fragment containing the gene was cut out of pSLIB120/ISP using BstBI and PmlI. Following the GPS reaction, this fragment was then ligated into the pSLIB120/ISP vector, cut with the same enzymes. Recombinant E. coli colonies were PCR-screened in order to estimate the position of the transposon insertion site. A set of 10 clones with the transposon at different positions in the second half (3' half) of the isp2 gene was selected. Plasmid DNA of these clones was transformed in a dcm and dam methylase negative E. coli strain GM2163. Plasmid DNA isolated from this strain was then transformed in a crystal-minus Bt strain. Supernatant was prepared and bioassayed, using supernatant from the Bt strain transformed with pSLIB120/ISP as a positive control and supernatant from the crystal-minus Bt strain as a negative control. For truncation of the isp1 gene, a fragment was cut out of pSLIB120/ISP using PmlI and EcoRI. The same methodology was followed as for the truncation of the isp2 gene.

L1: Entry 5 of 46 File: USPT Mar 16, 2004

DOCUMENT-IDENTIFIER: US 6706501 B1
TITLE: Polynucleotide encoding a propionibacterium linoleate isomerase and uses thereof

Detailed Description Text (186):
The PCR product of 1.9 kb was cloned as blunt ends at the SrfI site into pPCR-Script Amp SK and transformed into cells of E. coli strain NovaBlue. Since dam methylation in this host prevents BclI digestion, the recombinant plasmid was transformed into cells of E. coli strain GM2163, which is a dam minus strain. Recombinant plasmid DNA was digested with the restriction enzymes NdeI and BclI and ligated to the vector pBHAI which had been digested with NdeI and BamHI. Recombinant plasmid DNA was digested with SacI to remove the E. coli portion of the vector, recircularized, and transformed into B. subtilis 23856.

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L19: Entry 7 of 7 File: USPT Dec 28, 1993

DOCUMENT-IDENTIFIER: US 5273744 A
TITLE: Vaccines for the protection of animals against theileria infection

Detailed Description Text (106):
The gene contains a BclI site 23 nucleotides in from the N-terminal end (FIG. 1). Since BclI digestion is blocked by the dam methylase, plasmid 2 is grown in a methylase-deficient strain of E.coli such as NK5772. Plasmid 2 is prepared from NK5772 and is digested with BclI and a synthetic adaptor is attached to the DNA.

CLAIMS:

2. A vaccine for inducing immunoprotection in bovine animal species against infections of Theileria parva comprising pharmaceutically acceptable excipients and a substantially pure and isolated antigen having the amino acid sequence set forth in FIG. 1 said antigen present in an amount effective to induce immunoprotection against infection by Theileria parva when administered to the animal.

3. A vaccine of claim 2 wherein the antigen is glycosylated.

4. A vaccine of claim 2 wherein the antigen is not glycosylated.

5. A vaccine of claim 2 wherein the animals are cattle.

6. A vaccine of claim 2 wherein the antigen is a recombinant protein.

7. A vaccine of claim 2 wherein the substantially pure and isolated antigen is at least 75% pure.

8. A method for protecting bovine animal species from infection by Theileria parva comprising the administration of a vaccine comprising an amount of a substantially pure and isolated antigen having the amino acid sequence set forth in FIG. 1 said amount effective for inducing immunoprotection against infection by Theileria parva in the animal.

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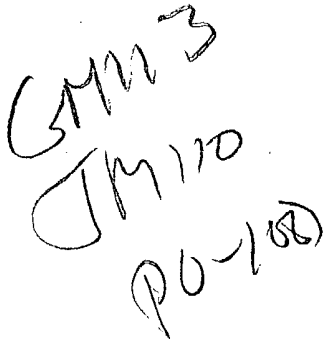

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cite per claim 2

L9: Entry 41 of 41 File: USPT Jan 17, 1989

DOCUMENT-IDENTIFIER: US 4798791 A
TITLE: Vector for high level gene expression

Detailed Description Text (15):
Plasmid pGX2257 DNA was prepared from E. coli strain GX3003 (pGX2257) that contains a DNA adenine methylase (dam) mutation. E. coli strain GX1731 (pGX2257) has been deposited at the U.S. Department of Agriculture, Northern Regional Research Laboratory, Peoria, Ill., with accession No. NRRL B-15771. Any E. coli host with a dam mutation (A. Bale, M. D'Alarcao and M. G. Marinus, Mutation Research, 59:157165 (1979)) that is a .lambda. phage lysogen can be utilized in place of GX3003 for this method. The pGX2257 DNA (15 .mu.g) prepared in a dam host was digested with 8 units of HpaI endonuclease in 100 .mu.l of the buffer recommended by the manufacturer at 37.degree. C. for two hours. The DNA solution was then extracted with a 1:1 mixture of water saturated phenol and cloroform (adjusted to pH 8.0 with tris-[hydroxymethyl]-aminomethane base). The aqueous phase was adjusted to a 0.2 M sodium acetate pH 5.5 and 2.5 volume of 95% ethanol was added to precipitate the DNA. The ethanol solution was frozen using dry ice then centrifuged at 15,000 X G to precipitate the DNA. The DNA was dissolved in 30 .mu.l H.sub.2 O to give a DNA concentration of 0.5 .mu.g/.mu. l.

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L15: Entry 20 of 40 File: USPT Jul 1, 2003

US-PAT-NO: 6585975
DOCUMENT-IDENTIFIER: US 6585975 B1

TITLE: Use of Salmonella vectors for vaccination against helicobacter infection

DATE-ISSUED: July 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Freeman; Donna	Cambridge			GB
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APPL-NO: 09/ 431705 [PALM]
DATE FILED: November 1, 1999

PARENT-CASE:
This application is a continuation-in-part of PCT/US98/08890, which s filed on Apr. 30, 1998.

INT-CL: [07] A61 K 39/02

US-CL-ISSUED: 424/200.1; 424/234.1, 435/69.1, 435/6, 514/44, 536/23.5
US-CL-CURRENT: 424/200.1; 424/234.1, 435/6, 435/69.1, 514/44, 536/23.5

FIELD-OF-SEARCH: 424/234.1, 424/200.1, 536/23.5, 514/44, 435/184, 435/6, 435/69.1

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected Search ALL Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4888170	December 1989	Curtiss, III	
☐	5538729	July 1996	Czinn et al.	424/234.1

☐	5547664	August 1996	Charles	424/93.2
☐	5683700	November 1997	Charles et al.	
☐	5783196	July 1998	Noriega et al.	424/234.1
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☐	5888799	March 1999	Curtiss, III	
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☐	6024961	February 2000	Curtiss, III et al.	
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ART-UNIT: 1645

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ASSISTANT-EXAMINER: Portner; Ginny Allen

ATTY-AGENT-FIRM: Clark & Elbing LLP

ABSTRACT:

The invention provides a method of immunization against Helicobacter, involving mucosal administration of an attenuated Salmonella vector including a nucleic acid molecule encoding a Helicobacter antigen, and parenteral administration of a soluble soluble Helicobacter antigen, co-administered with a suitable parenteral adjuvant. Also provided by the invention are attenuated Salmonella vectors for use in this method.

15 Claims, 10 Drawing figures

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